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Six Sigma in Everything We Do?

by **Mike Carnell**

I was lucky to work for Motorola in the 1980s and early 1990s—right in the middle of the company's transformation. Motorola was at risk as were many U.S. businesses. These businesses had lived comfortably for years only to discover that while they enjoyed their version of business sloth, Japanese competitors had become highly capable adversaries.

During these critical times, Six Sigma was forged, not as a methodology to be sold to the world, but as part of the Motorola plan to retain its position in the marketplace.

For me, the most interesting part of living through this change was seeing what actually happened at Motorola vs. what the world now believes occurred at Motorola.

From the Top

At the time, Motorola was fortunate to be led by CEO Robert Galvin. Under his leadership, the company declared total customer satisfaction to be its fundamental objective and everyone's overriding responsibility—Six Sigma quality wasn't the be all, end all, as some would have us believe.

Motorola was about to be truly transformed as a business. Such an undertaking requires a much broader perspective.

At Motorola, we all had to carry cards that spelled out the transformation plan. The card included the company's:

Key beliefs: Actions toward others, including a constant respect for people and uncompromising integrity.

Key goals: Things we must accomplish, including best in class people and practices, increased global share and superior financial results.

Key initiatives: Activities such as Six Sigma quality, total cycle time reduction, product and manufacturing leadership, profit improvement, and participative management within and cooperation between organizations.

Notice Six Sigma was simply part of the plan. It was one player among several initiatives.

We were directed to achieve Six Sigma quality in everything we did. Just as the world viewed us, we were a manufacturing company. But we did many things beyond manufacturing,

**True business
transformation
requires more than
just one initiative.**

as many companies do, such as accounts payable, HR, purchasing, facilities maintenance and finance. None of these activities were exempt from Six Sigma.

Amazingly, or perhaps conveniently, organizations have created some sort of quality assurance Big Bang version of the Motorola transformation that has manifested itself as "Six Sigma is for manufacturing."

W. Edwards Deming provided us with what he referred to as "the seven deadly diseases" and "obstacles to improvement." He encountered comments such as "Our problems are different" and "Anyone that comes to help us must understand all about our business."

Even though Deming's philosophy was first snubbed in the United States, Motorola chose to apply his teachings selectively, but ignore the list of obstacles to improvement. Why? Maybe it's ingrained in our psyche as a way to avoid change.

Perhaps in another five or 10 years we will have heard enough about Six Sigma and manufacturing to ensconce it rightfully among other notorious corporate diseases and obstacles.

Six Sigma, Will Travel?

I took the Six Sigma methodology with me when I left Motorola. It has

served me well in various industries. While working for a Houston based computer manufacturing firm, I was told, "Six Sigma works for semiconductors, but not in our industry."

For me, that was a complete eye-opener. The tools I had used to that point seemed to work as well in those processes as they had worked at Motorola. Not only was I never part of the semiconductor industry, but the pick and place machines at my new company were almost the same as the ones I had used about 180 miles up the interstate. This was my introduction to the unenlightened view of the Motorola transformation.

How could anyone believe Motorola was in just the semiconductor business? The annual reports were available, so it was no secret Motorola manufactured more than semiconductors. The production lines at Motorola and the computer manufacturer were virtually identical to each other.

Why would an entire management team refuse to use a methodology that had improved performance so significantly? Tons of information was available on process improvement on circuit board assembly lines.

Nothing could pierce the corporate veil and drive an organized improvement effort. Any improvement had to be done covertly.

GE Lighting the Way

In 1996 the General Electric (GE) deployment became part of the Six Sigma story. From a transaction point of view, we were told GE was not manufacturing and Six Sigma did not apply to nonmanufacturing. That observation morphed into "The tools do not apply to us," and eventually became "Six Sigma for transaction processes had been discovered." After several years, understanding and developing of Six Sigma has evolved to the point at which entire websites are dedicated to Six Sigma for financial services.

A similar turn of events has

occurred in the healthcare industry. Healthcare initially pushed back with its version of "We are different" and what tools do and do not work for it. There are now entire websites dedicated to Six Sigma for healthcare.

Skepticism surrounding Six Sigma and initial resistance to embracing the initiative still seems to be common at many organizations. I'm no longer surprised by comments such as "Six Sigma doesn't apply because we're not a manufacturer."

As I rode in an elevator a month ago, I was introduced to someone with the added tag, "He is a Six Sigma consultant." Without batting an eye, someone else responded "Oh, we're a manufacturer now?"

Six Sigma Everywhere

There's no question Six Sigma has spread from manufacturing to other types of businesses and disciplines—and across cultures and countries. Why does Six Sigma transcend these boundaries? If you strip away the hype, you can see it is fundamentally a problem solving methodology. Its basic set of tools apply to all data.

It doesn't matter whether the data come from an aircraft engine manufacturer in Ohio, a platinum mine in South Africa or a braking systems manufacturer in Brazil. A normality test on data produced in Canada, Japan or Australia will reveal whether the data are normally distributed. A two sample t-test on data from a semiconductor manufacturer in Singapore, a cell phone manufacturer in China and an exhaust pipe manufacturer in France is still testing two means.

The basic statistics are calculated the same way they have always been calculated. Nobody calls their favorite statistics software supplier and asks, "Hey Jeff, do you have that special version of software for base metals open pit mines located above 4,500 meters in Peru?" The calculations, tools and assumptions do not have specialized versions. One size fits all.

The analysis techniques produce the same results for the same set of data regardless of where they were generated.

The difference is what you do with the analysis to improve your business.

Not Just Six Sigma

If we look in our rearview mirror one more time and check out Motorola's transformation without the special Six Sigma 3-D glasses, we might get a much clearer view of what happened.

It was not about Six Sigma exclusively. Six Sigma was one piece of the transformation. The transformation was about breaking paradigms and using data and data analysis to know when and how to change the business model. It was about implementing a business model focused on the customer and the near perfect performance of those parts of the process addressing the customer's wants, needs and desires.

At Motorola, it did not matter whether we were part of a semiconductor, government electronics, automotive or communications business. We were all part of the Motorola business. The company's leadership team selected the course, and that was the direction we took.

A manager at the government electronics area at Motorola had strategically placed a sign behind his desk. Whenever someone spoke with him, the sign's words appeared just above his head: "Now that you have told me why it will not work, tell me why it will."

That one simple sentence completely changes the way the world looks. Impact players in companies today are the people who find ways to make things work rather than ways to prevent change.

As Jerry Garcia sings, "What a long strange trip it's been." So has the Six Sigma journey. The business of business improvement is simply answering the question, "How do we make it work here?"

REFERENCE

1. Mary Walton, *The Deming Management Method*, Perigee Books, 1986.



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